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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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H R. 33554

QM01/0605

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EXAMINER

MILLER, C

ART UNIT

PAPER NUMBER

3747

DATE MAILED:

06/05/01

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

- ☒ Responsive to communication(s) filed on 5/9/01
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-25 is/are pending in the application.
- Of the above, claim(s) 21-22 and 25 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-13, 16-19 and 23 is/are rejected.
- ☒ Claim(s) 14, 15, 20 and 24 is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of Reference Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

- SEE OFFICE ACTION ON THE FOLLOWING PAGES -

Art Unit:

Claims 21-22 and 25 remain withdrawn from examination as being drawn to the non-elected species of Figure 1. The examiner has considered applicant's arguments with regard to the restriction requirement and has not found them to be convincing. In particular, a review of the specification shows that there is no mention of the features of the throttle in the description of Figure 2 and there is no reason to believe that there is any restriction of the flow line when the valve of Figure 2 is open. The restriction requirement is hereby made final.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 7, 17, 18, 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida in view of Fujino.

Ishida teaches the serially arranged pumps of the claims and the first pump has a variable output depending upon engine parameter inputs. While the examiner feels that it is clear that in the low load range (when only the first pump feeds the injector) the ECU varies the pressure in the accumulator, Fujino has been applied to teach a system of the prior art without the second pump which clearly varies the accumulator pressure according to the claimed engine inputs.

It would have been obvious to continuously vary the pump output to the accumulator in Ishida in the low load range as taught by Fujino because exact fuel pressures are needed in such systems to meet fuel economy and emissions standards.

Art Unit:

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, "the electric motor" lacks antecedent basis in the claims since no motor is claimed in Claim 1.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida and Fujino as applied to claim 1 above, and further in view of Learman.

Learman considers injector on time in order to set the pressure of fuel in an accumulator and thus the total fuel quantity to the engine. Since the period of injection is always related to the total quantity it would always be necessary to consider this factor in a variable pressure fuel system.

Claims 2-6 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida and Fujino as applied to claim 1 above, and further in view of Yoshiume.

Yoshiume teaches a fuel pump which uses a variable speed motor to increase fuel output and increases the pump speed at starting. The system also considers fuel temperatures and since high temperatures mean less viscosity it is always necessary to pump a greater volume at these temperatures to keep quantity the same.

It would have been obvious to control the accumulator pressure of Ishida as taught by Yoshiume because the use of electric pumps in such pressure ranges was common in the art.

Art Unit:

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida, Fujino and Yoshiume as applied to claim 2 above, and further in view of Cummins.

Cummins teaches the well known use of resistors in series with an electric pump as part of the pump drive circuit. Since such resistors are conventional it would have been obvious to include them in the drive circuit of the electric pump.


Claims 14, 15, 20 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments filed May 9, 2001 have been fully considered but they are not persuasive. In particular, while the previous rejection under Rembold ('885) is hereby withdrawn and this action made non-final, the examiner still believes that the subject matter of the rejected claims would have been obvious in view of the newly applied art. Since applicant's comments with regard to the previously applied art are now moot no other comment is deemed necessary at the time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl S. Miller whose telephone number is (703) 308-2653.

CSM

June 2, 2001


Carl S. Miller
Primary Examiner